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In the Matter of:

**REBUTTAL TESTIMONY OF
BRIAN BAK
ON BEHALF OF DUKE ENERGY
CAROLINAS, LLC AND DUKE
ENERGY PROGRESS, LLC**

1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A. My name is Brian Bak and my business address is 139 E. 4th Street, Cincinnati, Ohio.

3 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

4 A. I am employed by Duke Energy Business Services, LLC, a service company affiliate of
5 Duke Energy Carolinas, LLC (“DEC”) and Duke Energy Progress, LLC (“DEP,” and
6 together with DEC, the “Companies”) as Manager DSM Analytics.

7 **Q. DID YOU PREVIOUSLY FILE DIRECT TESTIMONY IN THIS PROCEEDING?**

8 A. Yes.

9 **Q. ARE YOU INCLUDING ANY EXHIBITS IN SUPPORT OF YOUR REBUTTAL**
10 **TESTIMONY?**

11 A. Yes. As explained below, I am sponsoring Bak Rebuttal Exhibits 1 through 3.

12 **Q. WERE THESE EXHIBITS PREPARED BY YOU OR AT YOUR DIRECTION AND**
13 **UNDER YOUR SUPERVISION?**

14 A. Yes. These exhibits were prepared by me or at my direction and under my supervision.

15 **Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY IN THIS**
16 **PROCEEDING?**

17 A. My rebuttal testimony addresses the direct testimony of Jim Grevatt on behalf of the South
18 Carolina Coastal Conservation League, Southern Alliance for Clean Energy, Upstate
19 Forever, Sierra Club, and Natural Resources Defense Council (the “Environmental
20 Parties”).

21 **Q. PLEASE SUMMARIZE YOUR REBUTTAL TESTIMONY.**

22 A. The EE/DSM Market Potential Study’s inputs and assumptions have a direct connection to
23 the Companies’ system planning; EE-based demand and energy savings are treated as a

1 reduction to the load forecast and DSM resource options contribute to the Companies’
2 generation capacity. For these reasons, the study must reflect actual energy and demand
3 reduction potential rather than serve as a brainstorming exercise for program designs and
4 measures that may not have any applicability to the Companies’ service territories. Playing
5 fast and loose with inputs to the Market Potential Study will directly compromise the
6 accuracy and soundness of the IRPs and thus the reliability of the system. DEC and DEP
7 have offered to their customers industry-leading EE and DSM programs for years,
8 providing comprehensive suites of measures that provide robust energy savings. The
9 Companies look forward to building upon this success and updating its EE/DSM market
10 potential as appropriate in future IRP proceedings.

11 **Q. ENVIRONMENTAL PARTIES WITNESS GREVATT FAULTS THE MARKET**
12 **POTENTIAL STUDY FOR NOT ACCOUNTING FOR “EMERGING**
13 **TECHNOLOGIES,” AND FOR INSTEAD FOCUSING ON “EXISTING**
14 **TECHNOLOGY AND MARKET TRENDS AS OBSERVED WITH CURRENTLY**
15 **AVAILABLE DATA.”¹ WHAT IS YOUR RESPONSE TO THIS CRITIQUE?**

16 **A.** As discussed in DEC/DEP Witness Herndon’s rebuttal testimony, the Market Potential
17 Study is a systematic, evidence-based analysis of the known and quantifiable energy and
18 demand savings actually achievable by DEC and DEP. In order to maintain the objectivity
19 and data-driven nature of the Market Potential Study, it should not be viewed as an
20 opportunity to speculate about unnamed “emerging technologies” that may or may not
21 appear over the 15-year planning horizon. When asked in discovery for any “emerging
22 technologies” that could be named or identified by Mr. Grevatt or the Environmental

¹ Environmental Parties Grevatt Direct, at 5; Grevatt Direct, Exhibit A at 5.

1 Parties, they provided none.² Instead, the Environmental Parties provided links to lists of
 2 experimental measures, including a study evaluating the best way to keep taco shells warm
 3 and another study examining how best to stabilize wine in wine production.³ I suspect that
 4 such programs would not be cost-effective on a utility-wide basis in South Carolina and
 5 really are not relevant to the Market Potential Study or IRPs.

6 I'm not a lawyer, but my understanding of the IRP and of Act 62 is that the IRP is
 7 a *planning* document that must take into consideration a variety of factors, one of which is
 8 the Companies' actual potential energy and demand reductions from energy efficiency and
 9 demand response programs. Furthermore, in order for DEC or DEP to even evaluate
 10 potential EE/DSM measures or programs for future selection and implementation, they
 11 must be: (a) commercially available and sufficiently mature, (b) applicable to the
 12 DEC/DEP service area demographics and climate, and (c) feasible for a utility DSM/EE
 13 Program.⁴ Mr. Grevatt asserts that the EE/DSM forecasts should be inflated through the
 14 addition of unspecified "emerging technologies" which are as yet unnamed, let alone ready
 15 for evaluation as a potential future measure or program. A utility must be prudent in
 16 planning its system. When a portion of the assumptions supporting its load or generation
 17 forecast are speculative—for example, energy efficiency load savings or demand-side
 18 management generation support—the IRP ceases to be a well supported planning document
 19 and begins to transform into a wishful thinking exercise. The utility has the unique
 20 responsibility of ensuring that its inputs and assumptions are accurate and sound because

² Environmental Parties' Response to Companies' Interrogatory 1-1(b), attached hereto as Bak Rebuttal Exhibit 1.

³ *Id.*; California Emerging Technologies Coordinating Council, ca.com/reports/search?field_project_status=All (including project reports on "Taco Tower for Food Service" and "Wine Stabilization through Electrodialysis").

⁴ Order No 2021-32, Order Exhibit No. 1 at 32, Docket No. 2013-298-E (Jan. 15, 2021); Order No 2021-33, Order Exhibit No. 1 at 35, Docket No. 2015-163-E (Jan. 15, 2021).

1 it, and it alone, has the unique charge of reliably meeting load and ensuring its system is
2 prepared to serve customer needs now and in the future.

3 The inputs and assumptions supporting the Market Potential Study have a direct
4 connection to the Companies' capacity planning. As stated in the IRPs:

5 For IRP purposes, these EE-based demand and energy savings are treated
6 as a reduction to the load forecast, which also serves to reduce the associated
7 need to build new supply-side generation, transmission and distribution
8 facilities. [The Companies] also offer[] a variety of DSM (or demand
9 response) programs that signal customers to reduce electricity use during
10 select peak hours as specified by the Company. The IRP treats these
11 "dispatchable" types of programs as resource options that can be dispatched
12 to meet system capacity needs during periods of peak demand.⁵

13 Any overstatement of a utility's energy efficiency resources—for example, relying upon
14 technologies or market trends that are not known or observable—will directly result in an
15 understatement of the load forecast which, in turn, will lead to an understatement of the
16 minimum required generating capacity. In other words, if energy efficiency savings are
17 overstated, the utility will be unprepared to meet customer load. Likewise, an
18 overstatement of a utility's demand-side resources will directly result in an overstatement
19 of the utility's available generation, once again resulting in a compromised ability to meet
20 customer load.

21 Consistent with a utility's unique responsibility to meet load reliably—a burden
22 that is not shared by other intervenors—the Companies must ensure that the inputs and
23 assumptions driving the Market Potential Study appropriately support the IRP as a system
24 planning document, and that the inputs are accurate, evidence-based, and specific to the
25 utility's system and customer base. Proposals or suggestions that fail to meet these

⁵ DEC IRP at 35; DEP IRP at 35.

requirements should not be and cannot be relied upon in IRP development and review.

Q. MR. GREVATT'S DIRECT TESTIMONY PROVIDES A SET OF RECOMMENDATIONS AND CRITIQUES AS RELATED TO THE MARKET POTENTIAL STUDY AND THE COMPANIES' ENERGY EFFICIENCY AND DEMAND-SIDE MANAGEMENT PROGRAMS.⁶ DO YOU UNDERSTAND THESE CRITIQUES TO MEAN THAT THE COMPANIES HAVE NOT BEEN ENGAGED AND COMMITTED TO ENERGY EFFICIENCY AND DEMAND-SIDE MANAGEMENT PROGRAMS?

A. No. Not at all. The Companies are continually devoting substantial investment and resources into energy efficiency and demand-side management programs. Mr. Grevatt's direct testimony references the Winter Peak Demand Reduction Potential Assessment ("Winter Peak Assessment"), which was commissioned by the Companies to be completed by Dunsky Engineering Consulting and Tierra Resource Consultants. As noted in my direct testimony, the Companies hired Nexant to conduct and complete the Market Potential Study, which the Companies are relying upon to understand the potential of their EE and DSM programs.

The Companies also leverage a robust EE/DSM stakeholder engagement forum (the "Collaborative") and active EE/DSM dockets in which there are many participants, including the Environmental Parties. As pointed out in the IRP Reports filed by the Office of Regulatory Staff ("ORS") in these dockets, the Commission very recently approved the Companies' "most recent five-year DSM and EE Program plan" in its orders issued in January 2021, which has a goal of achieving energy savings of 1% of annual retail sales."⁷

⁶ Environmental Parties Grevatt Direct, at 4-5.

⁷ ORS Sandonato Direct Exhibit AMS-1, at 48; Sandonato Direct Exhibit AMS-2, at 48.

1 The Environmental Parties were parties to those dockets and were signatories to a
 2 settlement agreement approving of the Companies' EE/DSM mechanisms. The
 3 Collaborative and those substantive dockets are the appropriate forums to advance new
 4 programs, not within the IRP proceedings, which relate exclusively to resource planning.

5 **Q. MR. GREVATT COMPARES DEC AND DEP TO OTHER UTILITIES TO**
 6 **SUGGEST THAT THE MARKET POTENTIAL STUDY UNDERESTIMATES**
 7 **THE POTENTIAL EE AND DSM SAVINGS IN THE COMPANIES' TERRITORY.**
 8 **HOW DO YOU RESPOND?**

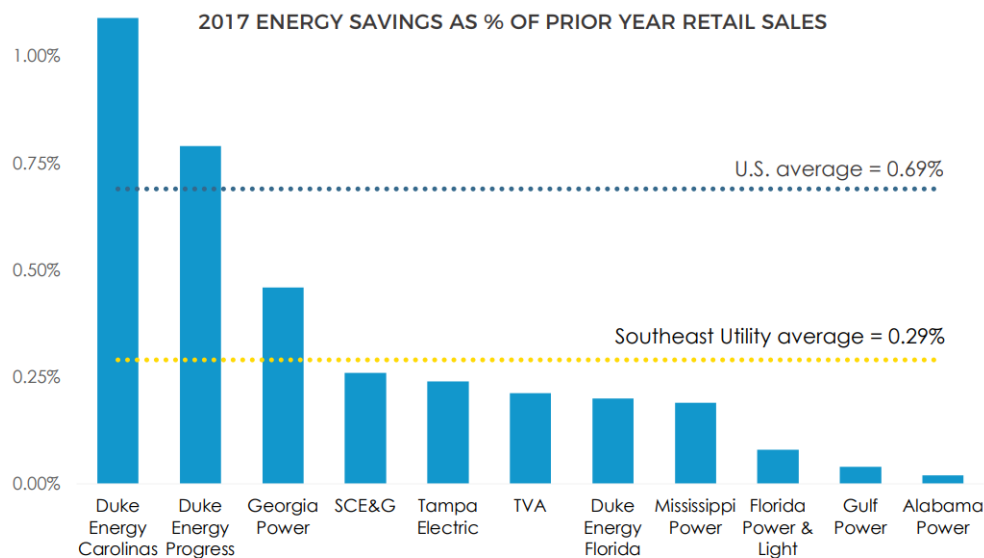
9 A. Because the Companies have nationally recognized EE/DSM programs, comparisons to
 10 other utilities should be undertaken very carefully. The Companies' long-term, ongoing,
 11 and consistent efforts, particularly as compared to other utilities, have garnered praise from
 12 environmental advocates for years. In 2017, SACE published an article with the title
 13 "Duke Energy Leads the Southeast on Energy Efficiency," in which it congratulated the
 14 Companies for their energy efficiency successes and counted DEC and DEP as "first in the
 15 Southeast" for energy efficiency.⁸ In 2018, SACE published its first annual "Energy
 16 Efficiency in the Southeast" report in which it again concluded that DEC and DEP were
 17 leaders in energy efficiency among over 500 utilities in the Southeast.⁹ SACE came to the
 18 same conclusion in each of its two more recent reports, that DEC and DEP were first—by

⁸ Duke Energy Leads the Southeast on Energy Efficiency, SOUTHERN ALLIANCE FOR CLEAN ENERGY (Oct. 12, 2017), *available* <https://cleanenergy.org/blog/southeast-energy-efficiency-2017>.

⁹ Energy Efficiency in the Southeast: 2018 Annual Report at 4, SOUTHERN ALLIANCE FOR CLEAN ENERGY, *available* <https://cleanenergy.org/wp-content/uploads/2018-Energy-Efficiency-in-the-Southeast-SACE-2.pdf>.

a healthy margin—among 500 other utilities for energy efficiency, finding that “Duke’s utilities in the Carolinas continue to lead the region in annual efficiency savings”¹⁰:

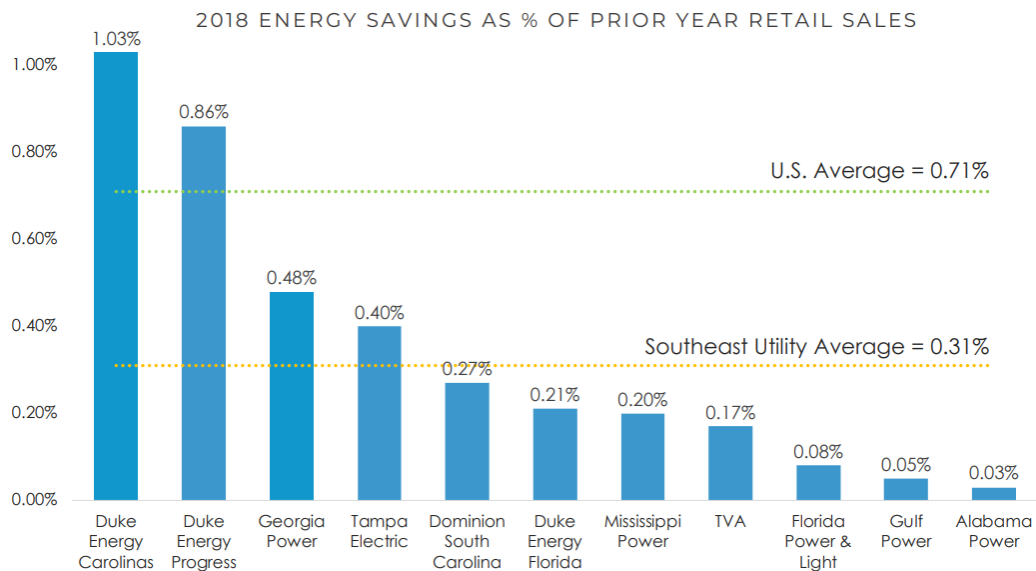
**Bak Rebuttal Figure 1:
SACE’s depiction of 2017 year-on-year energy savings by utility.¹¹**



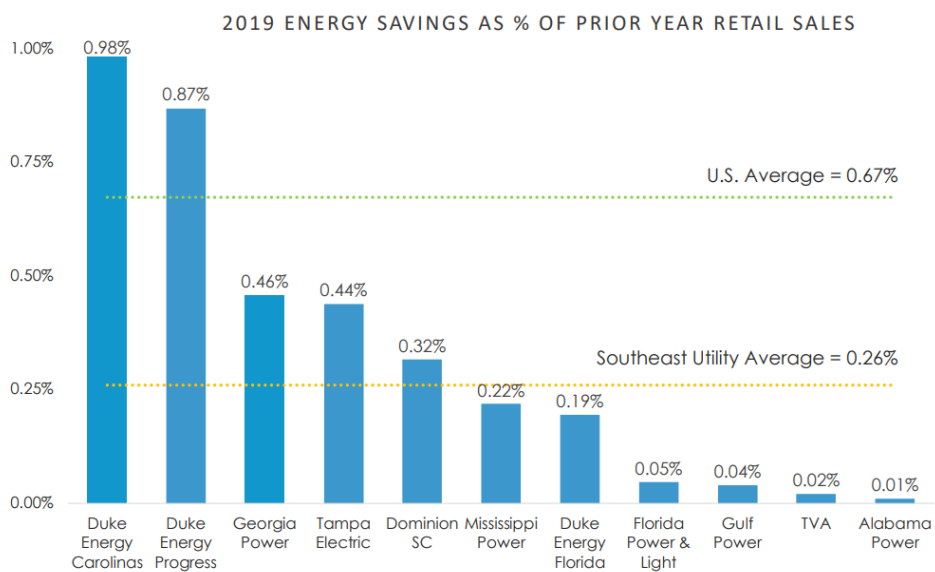
¹⁰ Energy Efficiency in the Southeast: 2019 Annual Report at 5, SOUTHERN ALLIANCE FOR CLEAN ENERGY, *available at* <https://cleanenergy.org/wp-content/uploads/22Energy-Efficiency-in-the-Southeast22-third-annual-report-2021.pdf>; Energy Efficiency in the Southeast: Third Annual Report at 6, SOUTHERN ALLIANCE FOR CLEAN ENERGY (Jan. 26, 2021), *available at* <https://cleanenergy.org/wp-content/uploads/22Energy-Efficiency-in-the-Southeast22-third-annual-report-2021.pdf>.

¹¹ Energy Efficiency in the Southeast: 2018 Annual Report at 4, SOUTHERN ALLIANCE FOR CLEAN ENERGY, *available at* <https://cleanenergy.org/wp-content/uploads/2018-Energy-Efficiency-in-the-Southeast-SACE-2.pdf>.

Bak Rebuttal Figure 2:
SACE's depiction of 2018 year-on-year energy savings by utility.¹²



Bak Rebuttal Figure 3:
SACE's depiction of 2019 year-on-year energy savings by utility.¹³



Because DEC and DEP are recognized leaders in energy efficiency and demand side management programs, much of the low-hanging fruit has already been plucked by the Companies, meaning that additional energy efficiency and demand-side management savings are increasingly more difficult and expensive to achieve. This is in direct contrast

1 to the testimony of Mr. Grevatt who proposes that the Companies should artificially inflate
2 anticipated future EE and DSM savings.

3 Another significant challenge for the Companies' energy efficiency measures and
4 programs which Mr. Grevatt overlooks is stricter codes and standards, which narrow the
5 incremental savings the Companies can achieve. As one example, if the new federal
6 administration tightens the efficiency standards for heat pumps, a new baseline will be
7 established for that technology. Thus, the Companies' opportunity for cost-effectively
8 increasing customer savings beyond that new higher baseline efficiency standard will be
9 reduced or eliminated altogether.

10 **Q. MR. GREVATT ASSERTS THAT THE MARKET POTENTIAL STUDY FAILED**
11 **TO EVALUATE A VARIETY OF ENERGY EFFICIENCY MEASURES USED IN**
12 **OTHER JURISDICTIONS.¹⁴ WHAT IS YOUR OPINION ON THIS ASSERTION?**

13 **A.** Of the nineteen "omitted measures" suggested by Mr. Grevatt, eighteen were actually
14 accounted for in the Market Potential Study; the one measure that was not accounted for is
15 a gas measure, as explained below.

16 **Bak Rebuttal Figure 4: Measures Implemented by the Companies**

Class	Measures	Applicable Program
Residential	LED decorative and directional lamps	Implemented through retail, online store, and direct install programs
	CEE tier 2 refrigerators	Included as part of Energy Star Refrigerator program per Herndon Rebuttal Exhibit 2
Commercial	Networked lighting controls	Implemented through Prescriptive/Custom
	LED parking lot lighting	Implemented through Prescriptive/Custom
	LED directional lamps	Implemented through Prescriptive/Custom
	Evaporator fan motor controls	Implemented through Prescriptive/Custom

¹⁴ Environmental Parties Grevatt Direct, at 4-5; Grevatt Direct, Exhibit A at 6-7.

	Variable refrigerant flow (VRF)	Implemented through Prescriptive/Custom
	Dedicated outdoor air system (DOAS)	Implemented through Prescriptive/Custom
	Air-source heat pumps	Implemented through Prescriptive/Custom
	Variable speed air compressor	Implemented through Prescriptive/Custom
	Dual enthalpy economizer for existing buildings	Implemented through Custom
	Data center hot/cold aisle configuration	Implemented through Prescriptive/Custom, but is industry standard so would likely be a baseline
Industrial	Strategic energy management	Implemented through Custom for RCx and monitoring-based commissioning
	Process improvement	Implemented through Custom
	Compressed air leak survey & repair	Implemented through Prescriptive
	Compressed air no-loss drains	Implemented through Prescriptive
	Chiller plant optimization	Implemented through Custom
	Advanced rooftop control	Implemented through Prescriptive / Custom

How the Market Potential Study accounted for these measures is explained in more detail in DEC/DEP Witness Herndon's rebuttal testimony and in Herndon Rebuttal Exhibit 2.

As for pool covers—the one measure that was omitted from the Market Potential Study—the Companies' research indicates that this measure would hold very little potential for electric savings and would likely be a far more effective natural gas efficiency measure. The Company's 2019 Residential Appliance Saturation Study indicates that only 2% of pool owners in North Carolina and not even 1% of South Carolina pool owners utilize electric pool heaters, making it challenging to design a cost effective program around pool covers and next to impossible to reduce the Companies' load forecasts in a significant, meaningful way by offering it to customers. Indeed, the Environmental Parties indicated in discovery that—of the other jurisdictions it reviewed—only one state (Illinois) offers

1 pool covers as an energy efficiency measure,¹⁵ and the source provided by the
2 Environmental Parties defines the measure as follows: “This measure refers to the
3 installation of covers on residential use pools that are heated with gas-fired equipment
4 located either indoors or outdoors.”¹⁶ Clearly this “omitted measure” has no application
5 or relevance to the electric Market Potential Study or the Companies’ electric IRPs.

6 Additionally, Mr. Grevatt and his clients—the Environmental Parties—are active
7 participants in the Companies’ EE/DSM Collaborative and therefore have a continuous
8 forum for providing input and feedback on the Companies’ program offerings, including
9 proposing new measures or programs. Many of the Environmental Parties have been
10 participants in the Collaborative since 2010 and have provided feedback on many
11 occasions.¹⁷ There is no record of the Environmental Parties ever proposing the inclusion
12 of pool covers in the Companies’ suite of EE/DSM programs, or opining on its cost-
13 effectiveness as an electric program in the DEC and DEP service territories. The
14 Environmental Parties can also make filings with the Commission if they believe the
15 Companies are not implementing an energy efficiency or demand-side management
16 program or strategy that has potential for savings. These IRP proceedings, however, are
17 not the appropriate forum for brainstorming or proposing new strategies or program ideas.

¹⁵ Environmental Parties’ Response to Companies’ Interrogatory 1-4(b), attached hereto as Bak Rebuttal Exhibit 2.

¹⁶ Illinois Statewide Technical Reference Manual § 5.4.10, p. 243, *available at* https://ilsag.s3.amazonaws.com/IL-TRM_Effective_010121_v9.0_Vol_3_Res_09252020_Final.pdf (emphasis added).

¹⁷ Environmental Parties’ Response to Companies’ Interrogatory 1-25, attached hereto as Bak Rebuttal Exhibit 3.

1 **Q. AS PART OF THIS DISCUSSION OF “OMITTED MEASURES,” MR. GREVATT**
2 **DISCUSSES A REPORT FROM THE AMERICAN COUNCIL FOR AN ENERGY-**
3 **EFFICIENT ECONOMY (“ACEEE”) THAT INCLUDED A “META-ANALYSIS”**
4 **OF OTHER UTILITIES’ ENERGY EFFICIENCY PROGRAMS.¹⁸ DO YOU**
5 **AGREE THAT THE ACEEE REPORT IS A HELPFUL POINT OF**
6 **COMPARISON?**

7 A. No. The “meta-analysis” included in the ACEEE report is an extremely high-level, two-
8 page comparison of the annual energy efficiency savings potential estimates from a select
9 group of utilities from various other geographical areas, including utilities that operate in
10 Illinois, Colorado, Wisconsin, Missouri, and Michigan.¹⁹ Such high-level comparisons
11 that span jurisdictions with no accounting for differences that influence the applicability,
12 cost-effectiveness and adoption rate of EE measures are really not useful or reliable as a
13 point of comparison for total energy savings potential. A more relevant study would
14 evaluate characteristics including climate, makeup of the customer base, type and age of
15 buildings, fuel types for space and water heat as well as other energy end uses, avoided
16 energy costs, and numerous other drivers to be similar or, at a minimum adjusted for, in
17 order to serve as a reasonable basis for comparison. Additionally, in order to serve as a
18 meaningful metric, the simplistic use of “annual savings as a percentage of baseline” to
19 compare program potential of unrelated utilities would need to be adjusted for differences
20 in average annual energy use per customer, how long the utilities’ EE programs had been
21 in place and how effective they had been, among other utility-specific factors. Finally, the

¹⁸ Environmental Parties Grevatt Direct, at 12; Grevatt Direct, Exhibit A at 15.

¹⁹ ACEEE report, Appendix D: Meta-Analysis of Electricity Energy Efficiency Potential Studies, available at <https://www.aceee.org/sites/default/files/pdfs/u2007.pdf>.

1 authors of the “meta-analysis” acknowledge that the referenced Energy Efficiency
 2 Potential Studies used employed a varied mix of cost effectiveness tests and some reported
 3 energy savings levels as net of free-riders while others were gross of free-riders.²⁰ As such,
 4 these studies are apples and oranges even in comparison to each other, let alone relevant as
 5 a point of comparison for DEC and DEP.

6 **Q. MR. GREVATT ALSO STATES THAT THE MARKET POTENTIAL STUDY**
 7 **SHOULD HAVE ACCOUNTED “NEW OR ENHANCED” CUSTOMER**
 8 **ENGAGEMENT STRATEGIES.²¹ HOW DO YOU RESPOND TO THIS**
 9 **SUGGESTION?**

10 A. Again, this critique seems off-base, as the Companies’ commitment to enhance their
 11 program engagement strategies was recently recognized in SACE’s third annual “Energy
 12 Efficiency in the Southeast” report which states as follows:

13 Technologies, consumer preferences, and efficiency standards for buildings
 14 and appliances are frequently changing, so it takes consistent effort to
 15 sustain high utility energy savings. **More than any other Southeast utility,**
 16 **Duke’s utilities in the Carolinas are perpetually developing new**
 17 **programs and ways to enhance program delivery** – with considerable
 18 help from collaborative stakeholders like SACE.²²

19 Additionally, Nexant reviewed past evaluation, measurement, and verification (“EM&V”)
 20 reports and had discussions with program management teams to understand program
 21 delivery channels and anticipated performance improvements. Lastly, the Environmental
 22 Parties have a constantly available forum in the EE/DSM stakeholder Collaborative to

²⁰ A free rider is a customer who receives an incentive from a utility for installing an energy efficiency measure even though that customer would have installed the measure based on its return on investment without the utility incentive. Consequently, free riders undermine a program’s cost effectiveness because the savings they achieve are not attributable to the utility’s efforts.

²¹ Environmental Parties Grevatt Direct, at 5; Grevatt Direct, Exhibit A at 8.

²² Energy Efficiency in the Southeast: Third Annual Report at 9, SOUTHERN ALLIANCE FOR CLEAN ENERGY (Jan. 26, 2021), *available at* <https://cleanenergy.org/wp-content/uploads/22Energy-Efficiency-in-the-Southeast22-third-annual-report-2021.pdf> (emphasis added).

1 monitor program engagement strategies and suggest improvements as well as always being
 2 able to make filings with the Commission as related to specific programs should the
 3 Companies decline to adopt their recommendations. The IRPs, which are a planning
 4 document, are not the appropriate forum for guessing how changing the Companies'
 5 marketing and customer engagement strategies could affect programs.

6 **Q. ONE OF THE EXAMPLES OF “UNDERESTIMATIONS” POINTED TO BY MR.**
 7 **GREVATT IS THAT THE COMPANIES DID NOT INCLUDE SAVINGS THAT**
 8 **MAY RESULT FROM THE WINTER PEAK ASSESSMENT.²³ CAROLINAS**
 9 **CLEAN ENERGY BUSINESS ASSOCIATION (“CCEBA”)²⁴ WITNESS OLSON**
 10 **ALSO REFERENCES THE WINTER PEAK ASSESSMENT AS RELATED TO**
 11 **EE/DSM SAVINGS.²⁵ WHY DIDN’T THE COMPANIES RELY UPON SAVINGS**
 12 **THAT MAY RESULT FROM THE WINTER PEAK ASSESSMENT?**

13 A. As stated in the IRPs:

14 [I]t is premature to include such findings in the Base Case forecast
 15 Over time, as new programs/rate designs are approved and become
 16 established, the Company will gain additional insights into customer
 17 participation rates and peak savings potential and will reflect such findings
 18 in future forecasts.²⁶

19 Assuming a particular amount of savings resulting from these potential future programs
 20 and rate designs—before they are developed by the Companies and stakeholders and
 21 approved by the Commission—would be irresponsible from a system planning perspective.

²³ Environmental Parties Grevatt Direct at 14; Grevatt Direct Exhibit A at 19.

²⁴ On June 26, 2019, the Commission issued Order Nos. 2019-467 and 2019-468 granting the South Carolina Solar Business Alliance, Inc.’s (“SCSBA”) petition for intervention in these proceedings. On March 10, 2021, the Commission issued Order No. 2021-167 granting SCSBA’s Motion to substitute CCEBA as the party of record and participant in these Dockets.

²⁵ CCEBA Olson Direct, at 20-21.

²⁶ DEC IRP at 36; DEP IRP at 36.

1 As explained at the beginning of my testimony, overstating energy efficiency and demand-
2 side resource savings, particularly where there is no data supporting those savings, is likely
3 to result in skewed assumptions and a compromised ability to meet load. Additionally, the
4 non-dispatchable DSM measures based on rate design would not be included in the IRPs
5 DSM forecast as the impacts on customer load shape and peak demand from such programs
6 would instead be represented in the net load forecast. Also, the incremental peak demand
7 reduction identified in the Winter Peak Assessment above and beyond the Market Potential
8 Study was entirely from rate design programs and therefore would be reflected within the
9 load forecast rather than as part of EE/DSM savings.

10 **Q. WHAT IS YOUR RESPONSE TO MR. GREVATT'S RECOMMENDATION**
11 **THAT THE 2020 IRPs BE REVISED TO REFLECT HIS**
12 **RECOMMENDATIONS?**²⁷

13 A. First, as explained in my rebuttal testimony and in Mr. Herndon's rebuttal testimony, Mr.
14 Grevatt's recommendations are generally vague, flawed, and should not be relied upon in
15 this IRP context. The Companies do, however, periodically update their Market Potential
16 Study and intend to include in the next version of that study any programs or program
17 enhancements that may result from the Winter Peak Assessment, as well as account for any
18 changes in customer adoption rates resulting from the very recently approved future change
19 from the Total Resource Cost test to the Utility Cost Test for economic evaluation of energy
20 saving measures. Because the Market Potential Study—like the IRP—is a “snapshot in
21 time,” revising the Market Potential Study to account for changes that occurred after its
22 completion would make little sense and would result in added costs to customers.

²⁷ Environmental Parties Grevatt Direct, at 15.

1 Further, while Act 62 requires that utilities file updated IRPs every three years, the
2 Companies have historically developed comprehensive IRPs every two years, meaning that
3 the IRP will be extensively refreshed in September 2022, with an intermediate update in
4 September 2021 in accordance with Act 62. These regular, comprehensive IRP and Market
5 Potential Study updates will capture the effects of new EE/DSM technologies and program
6 delivery methods as they become accepted in the market and possess verifiable
7 performance and cost data.

8 **Q. MR. GREVATT STATES THAT “MARKET ACCEPTANCE” IS A DRIVER OF**
9 **LOWER MEASURE COSTS, CITING LED LIGHTING AS AN EXAMPLE.²⁸**
10 **WHAT IS YOUR OPINION REGARDING MARKET ACCEPTANCE OF**
11 **ENERGY EFFICIENCY MEASURES?**

12 A. “Market acceptance” is often considered a driver of increasing free-ridership, which makes
13 utility sponsored energy efficiency programs less effective for driving incremental energy
14 savings. This is so because, as measures become more mainstream, adoption incentives
15 become less necessary to drive customer behavior. Instead, the customer will be motivated
16 to adopt the measure without the need for the incentive. In this scenario where the utility
17 continues to offer incentives to customers who would likely have adopted the measure
18 regardless, costs are driven up for all utility customers without any incremental energy
19 savings benefit.

20 As one example, there was a time at which A-Line LED light bulbs (i.e., the most
21 common type of household light bulb) were not considered to be “mainstream” and were
22 not widely adopted for use in households or businesses. For that reason, incentives to adopt

²⁸ Environmental Parties Grevatt Direct, at 8; Grevatt Direct, Exhibit A at 10.

1 A-Line LED bulbs were effective at driving increased customer adoption. As A-Line LED
2 bulbs became a more accepted mainstream product and as costs significantly declined,
3 customers in most market segments were purchasing and installing A-Line LED bulbs
4 without the need for incentives from the utility. While there are certain customer segments
5 where A-Line LED bulb adoption continues to benefit from utility incentive offers, if the
6 utility continued to provide incentives for installing A-Line LED bulbs across all customer
7 and market segments, the utility would incur higher program costs with no attendant
8 benefits.

9 All of this means that, while market acceptance may be associated with lower
10 measure costs, it also corresponds with decreasing effectiveness as a utility energy
11 efficiency program. The energy efficiency savings obtained through the widespread
12 adoption of mainstream efficiency measures—whether due to increased codes and
13 standards or by customer adoption independent of utility energy efficiency programs—are
14 already accounted for as naturally occurring energy efficiency within the load forecast
15 relied upon in a utility’s IRP. Double-counting these energy savings through both the load
16 forecast and through a utility’s analysis of EE market potential would inappropriately
17 inflate anticipated savings through EE.

18 **Q. DO YOU HAVE ANY FINAL RESPONSE TO MR. GREVATT’S TESTIMONY?**

19 A. Yes. DEC and DEP are the only parties in these proceedings charged with the
20 responsibility to “keep the lights on.” Unjustified inflation in energy efficiency and
21 demand-side management projections, as proposed in Mr. Grevatt’s direct testimony, could
22 result in the utility being unable to meet load. For these reasons, the Companies have a
23 duty to ensure that the inputs and assumptions driving the Market Potential Study are sound

1 and well supported by verifiable data in order to maintain the IRPs' value as a system
2 planning document.

3 **Q. ORS WITNESS ANTHONY SANDONATO RECOMMENDS THAT THE**
4 **COMPANIES PROVIDE ADDITIONAL JUSTIFICATION FOR DERIVING THE**
5 **LOW EE/DSM FORECAST, AND PROPOSES THAT THIS ISSUE BE**
6 **ADDRESSED IN FUTURE IRPS THROUGH THE STAKEHOLDER PROCESS**
7 **UTILIZED BY THE COMPANIES AS RELATED TO THE IRPS.²⁹ HOW DO YOU**
8 **RESPOND?**

9 A. As stated in the IRPs, the low energy efficiency and demand-side management scenario is
10 “simply a 25% reduction in adoption and cost impacts of DSM programs.” The reason the
11 Companies selected this level of adoption was because few, if any, intervenors typically
12 request less savings from energy efficiency and demand-side management programs.
13 Nevertheless, the Companies understand ORS’s critique and agree—as ORS suggests—to
14 address the appropriate level of a low energy efficiency and demand-side management case
15 with stakeholders for their next IRPs.

16 As referenced above, there are challenges to the Companies’ energy efficiency
17 assumptions that could warrant a more precise development of a low energy efficiency and
18 demand-side management scenario. For example, it is possible, if not foreseeable, that the
19 new federal administration could implement new codes and standards that require greater
20 energy efficiency for certain consumer or commercial products and technology. If that
21 occurs, a new baseline would be established, and the Companies’ anticipated incremental
22 EE/DSM savings would have to be revised downward and resulting savings would be

²⁹ ORS Sandonato Direct, Exhibit AMS-1 at 49; ORS Sandonato Direct, Exhibit AMS-2 at 49.

1 reflected instead within the load forecast. Other economic conditions and unexpected
2 market changes, like those resulting from a pandemic resurgence or novel pandemic, can
3 also greatly impact the Companies' ability to effectively offer programs and the ability and
4 desire of customers to participate. Another such challenge is "market acceptance" of
5 certain measures and free-ridership of energy efficiency programs.

6 **Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

7 A. Yes.